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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,451	10/30/2003	Yasuo Sato	83394.0018	7966
26/021 7590 02/21/2008 HOGAN & HARTSON LLP. 1999 AVENUE OF THE STARS SUITE 1400 LOS ANGELES, CA 90067				
EXAMINER				
LIOU, ERIC				
ART UNIT		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/697,451

**Applicant(s)**

SATO ET AL.

**Examiner**

Eric Liou

**Art Unit**

3628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/6/07 has been entered.

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1, 6, 13, and 14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 1 recites the limitation "...determining a stochastic distribution of uncertain factors included in an expected balance generated from said electric power generating plan and said electric power trading plan based on an autoregressive moving average model, and presenting said stochastic distribution of uncertain factors in a time-series form." It is unclear how one can

perform the determining step when the electric power generating plan and electric power trading plan are not positively recited in the body of the claim.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7, 9-11, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takriti, U.S. Patent No. 6,021,402 in view of Iino, U.S. Patent No. 5,873,251 and further in view of Zhang, "Linear and Nonlinear Modeling and Forecasting of Electric Power Loads", Oklahoma State University, July 1992.

7. **As per claim 1**, Takriti '402 discloses in a planning system that makes plans of electric power generation and electric power trade, a computer implemented method for an electric power generating plan and an electrical power trading plan comprising the steps of: determining a stochastic distribution of uncertain factors included in an expected balance generated from said electric power generating plan and said electric power trading plan (Takriti '402: col. 4, lines 58-67 - col. 5, lines 1-19), and presenting said stochastic distribution of uncertain factors in a time-series form (Takriti '402: Figures 9A, 9B, and 11),

8. Takriti '402 does not disclose wherein said uncertain factors include prediction errors caused by annulment of said electrical power trading plan; and determining a stochastic distribution based on an autoregressive moving average model.

9. Iino discloses wherein said uncertain factors include prediction errors caused by annulment of said electrical power trading plan (Iino: col. 14, lines 31-41 – Iino discloses in-trouble surplus energy calculating means 48 that calculates the surplus energy conditions which can satisfy conditions that the total electricity generation quantity is larger than the electricity generation demand, which suggests a prediction error. Furthermore, the phrase “machine troubles” suggest that the power company may be inoperable, which implies that the power company may not be able to fulfill the energy demand recited in an energy-trading plan. If this is the case, it is possible that the energy-trading plan is annulled.).

10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti ‘402 to have included wherein said uncertain factors include prediction errors caused by annulment of said electrical power trading plan as disclosed by Iino for the advantage of providing a system and method that will increase the efficiency of electric power production so as to contribute to the protection of the environment (Iino: col. 1, lines 40-42).

11. Takriti ‘402 in view of Iino does not disclose determining a stochastic distribution based on an autoregressive moving average model.

12. Zhang discloses using stochastic time series approaches in the form of autoregressive moving average models to forecast power loads (pgs. 3, 11-12, and 21).

13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti ‘402 in view of Iino to have included determining a stochastic distribution based on an autoregressive moving average model as disclosed by Zhang for the advantage of providing a systematic procedure that can produce good

forecasting results and allow for modeling situations that include multiperiodicity and nonstationarity (Zhang: pg. 121).

14. **As per claim 2**, Takriti '402 further discloses the said electric power generating plan and said electric power trading plan are presented in time-series forms (Takriti '402: Figures 9A, 9B, and 11).

15. **As per claim 3**, Takriti '402 further discloses the uncertainty factors include variances of electric power demand (Takriti '402: Figure 11).

16. **As per claim 4**, Takriti '402 further discloses the said uncertainty factors include variances of unit price of fuel to be used for power generators (Takriti '402: Figure 2, "112"; Figure 3, see fuel price per MMBTU).

17. **As per claim 5**, Takriti '402 further discloses said uncertainty factors include variances of unit price of electric power to be traded (Takriti '402: Figure 3, see price per MWH for forecasted trades).

18. **As per claim 6**, Takriti '402 discloses in a planning system that makes plans of electric power generation and electric power trade, a computer implemented method for an electric power generating plan and an electrical power trading plan comprising the steps of: determining a stochastic distribution of uncertain factors included in an expected balance generated from said electric power generating plan and said electric power trading plan (Takriti '402: col. 4, lines 58-67 - col. 5, lines 1-19), and presenting said stochastic distribution of uncertain factors in a time-series form (Takriti '402: Figures 9A, 9B, and 11) and a chart that gives a time axis for an axis and expected values and variances of said stochastic distribution for another axis (Takriti '402: Figures 9A, 9B, and 11 - Figure 9 discloses load forecasts (expected values). Figure 11 discloses

different scenarios, which indicate variances of values as shown on the y-axis. It would have been obvious for one skilled in the art at the time of the invention to have combined the information of Figures 9 and 11 into one chart for the advantage of conveniently organizing data into one graph.).

19. Takriti '402 does not disclose wherein said electric power generating plan and the electric power trading plan and said stochastic distribution are presented in a first chart that gives a time axis for an axis, and generator power output and contracted electric power for the other axis, the first chart including an interruption term of power supply regarding to maintenance inspection and a term of output restriction; and determining a stochastic distribution based on an autoregressive moving average model.

20. Iino discloses wherein said electric power generating plan and the electric power trading plan and said stochastic distribution are presented in a first chart that gives a time axis for an axis, and generator power output and contracted electric power for the other axis (Iino: Figure 7F - The Examiner interprets  $E_{gen}$  and  $E_{load}$  to be generator power output and contracted electric power respectively.) and a chart including an interruption term of power supply regarding to maintenance inspection and a term of output restriction (Iino: Figure 6B, "Plant Shutdown"). It would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the data of Figures 6B and 7F in one chart for the advantage of conveniently organizing data into one graph.).

21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 to have included wherein said electric power generating plan and the electric power trading plan and said stochastic distribution are

presented in a first chart that gives a time axis for an axis, and generator power output and contracted electric power for the other axis, the first chart including an interruption term of power supply regarding to maintenance inspection and a term of output restriction as disclosed by Iino for the advantage of conveniently representing the power generating plan data and electric power trading plan data in a chart form.

22. Takriti '402 in view of Iino does not disclose determining a stochastic distribution based on an autoregressive moving average model.

23. Zhang discloses using stochastic time series approaches in the form of autoregressive moving average models to forecast power loads (pgs. 3, 11-12, and 21).

24. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 in view of Iino to have included determining a stochastic distribution based on an autoregressive moving average model as disclosed by Zhang for the advantage of providing a systematic procedure that can produce good forecasting results and allow for modeling situations that include multiperiodicity and nonstationarity (Zhang: pg. 121).

25. **As per claim 7,** Takriti '402 does not disclose receiving designation of an area of blocks where power generator output is presented in said first chart thereof, and presenting power generation volume, and power generator start stop term, in date output pattern and information of price variation of said fuel to be used.

26. Iino further discloses the steps of: receiving designation of an area of blocks where power generator output is presented in said first chart thereof (Iino: Figures 7F and 7H), and presenting power generation volume, and power generator start stop term, in date output pattern and



information of price variation of said fuel to be used (Iino: Figure 6B, see plant shutdown; Figures 7F and 7H; Figure 12D, see fuel unit price).

27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 in view of Iino and further in view of Zhang to have included receiving designation of an area of blocks where power generator output is presented in said first chart thereof, and presenting power generation volume, and power generator start stop term, in date output pattern and information of price variation of said fuel to be used as disclosed by Iino for the advantage of providing a system and method that will increase the efficiency of electric power production so as to contribute to the protection of the environment (Iino: col.1, lines 40-42).

28. **As per claim 9**, Takriti '402 further discloses receiving designation of an area of blocks where in-trade electric power is presented in said first chart thereof (Takriti '402: Figure 3, "see Forecasted Trades for October 15, 1996"; Figure 11), and presenting trade unit price, trade volume and in-date supply pattern (Takriti '402: Figure 3, "see Forecasted Trades for October 15, 1996").

29. **As per claim 10**, Takriti '402 further discloses receiving designation of an area of blocks where in-trade electric power is presented thereof (Takriti '402: Figures 9A and 9B), and presenting expected values and variances of both unit price and volume of electric power to be traded for a term that said designation appoints (Takriti '402: Figure 3, "see Forecasted Trades for October 15, 1996", see the varying prices per MWH).

30. **As per claim 11**, Takriti '402 further discloses receiving a term to be specified in said time axis, receiving a selection of an expanded scale or an shrunk scale of date or time zone of

said term to be presented, and presenting a chart composed on a time axis defined in said expanded scale or said shrunk scale (Takriti '402: Figures 9A, 9B, and 11 – The Examiner notes, it is basic knowledge of one skilled in the art to shrink or expand the scale of a chart axis accordingly. The applied reference has been interpreted and applied assuming basic knowledge of one of ordinary skill in the art. According to *in re Jacoby*, 135 USPQ 317 (CCPA 1962), the skilled artisan is presumed to know something more about the art than only what is disclosed in the applied references. In *In re Bode*, 193 USPQ 12 (CCPA 1977), every reference relies to some extent on knowledge of persons skilled in the art to complement that, which is disclosed therein.).

31. **As per claims 13 and 14**, Takriti '402 discloses a planning method and computer readable recording medium that has a function for planning computer equipment that makes electric power generating plan and electric power trading plan comprising the steps of: determining a stochastic distribution due to uncertain factors regarding to a balance caused by electric power generation and electric power trade (Takriti '402: col. 4, lines 50-67 – col. 5, lines 1-19), and presenting said stochastic distribution in a time-series form (Takriti '402: Figures 9A, 9B, and 11).

32. Takriti '402 does not disclose wherein said uncertain factors are prediction errors caused by annulment of the electrical power trading plan; and determining a stochastic distribution based on an autoregressive moving average model.

33. Iino discloses wherein said uncertain factors are prediction errors caused by annulment of the electrical power trading plan (Iino: col. 14, lines 31-41 – Iino discloses in-trouble surplus energy calculating means 48 that calculates the surplus energy conditions which can satisfy

conditions that the total electricity generation quantity is larger than the electricity generation demand, which suggests a prediction error. Furthermore, the phrase “machine troubles” suggest that the power company may be inoperable, which implies that the power company may not be able to fulfill the energy demand recited in an energy-trading plan. If this is the case, it is possible that the energy-trading plan is annulled.).

34. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method and computer readable recording medium of Takriti ‘402 to have included wherein said uncertain factors are prediction errors caused by annulment of the electrical power trading plan as disclosed by Iino for the advantage of providing a system and method that will increase the efficiency of electric power production so as to contribute to the protection of the environment (Iino: column 1, lines 40-42).

35. Takriti ‘402 in view of Iino does not disclose determining a stochastic distribution based on an autoregressive moving average model.

36. Zhang discloses using stochastic time series approaches in the form of autoregressive moving average models to forecast power loads (pgs. 3, 11-12, and 21).

37. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method and computer readable recording medium of Takriti ‘402 in view of Iino to have included determining a stochastic distribution based on an autoregressive moving average model as disclosed by Zhang for the advantage of providing a systematic procedure that can produce good forecasting results and allow for modeling situations that include multiperiodicity and nonstationarity (Zhang: pg. 121).

38. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takriti, U.S. Patent No. 6,021,402 in view of Iino, U.S. Patent No. 5,873,251 in view of Zhang, "Linear and Nonlinear Modeling and Forecasting of Electric Power Loads", Oklahoma State University, July 1992 and further in view of Takriti et al., U.S. Patent No. 5,974,403.

39. **As per claim 8**, Takriti '402 does not disclose receiving a designation of an area of blocks where an interruption term of power supply regarding to a maintenance inspection term and a restriction term of generator output is presented in said first step thereof, and presenting said interruption term of power supply regarding to maintenance inspection, said restriction term of generator output or a generator output to be suppressed.

40. Iino discloses receiving a designation of an area of blocks for an interruption term of power supply (Iino: Figure 6B, see plant shutdown) and a restriction term of generator output is presented in said first step thereof (Iino: Figure 6B; col. 10, lines 33-37), and presenting said interruption term of power supply, said restriction term of generator output or a generator output to be suppressed (Iino: Figure 6B; col. 10, lines 33-37).

41. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 in view of Iino and further in view of Zhang to have included receiving a designation of an area of blocks for an interruption term of power supply and a restriction term of generator output is presented in said first step thereof, and presenting said interruption term of power supply, said restriction term of generator output or a generator output to be suppressed as disclosed by Iino for the advantage of providing a system and method that will increase the efficiency of electric power production so as to contribute to the protection of the environment (Iino: col. 1, lines 40-42).

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42. Takriti '402 in view of Iino and further in view of Zhang does not disclose the interruption term of power supply results from maintenance inspection.

43. Takriti '403 discloses the interruption term of power supply results from maintenance inspection (Takriti '403: col. 5, lines 15-21).

44. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 in view of Iino and further in view of Zhang to have included the interruption term of power supply results from maintenance inspection as disclosed by Takriti '403 for the advantage of providing a tool for forecasting the spot price of electric power and the amount of power that may be traded in a market (Takriti '403: column 3, lines 25-28).

45. **As per claim 12**, Takriti '402 further discloses determining a new said stochastic distribution, and presenting the said new stochastic distribution in a time-series form (Takriti '402: Figures 9A, 9B, and 11).

46. Takriti '402 does not disclose receiving said generator output, a term to be specified in said time axis, said interruption term of power supply regarding to maintenance inspection, said term of output restriction.

47. Iino discloses receiving said generator output (Iino: Figures 7F and 7H), a term to be specified in said time axis (Iino: Figures 7F and 7H – The Examiner notes, hours are specified in the time axis.), said interruption term of power supply (Iino: Figures 6B, see plant shutdown), said term of output restriction (Iino: Figures 6B, see plant shutdown).

48. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 in view of Iino and further in view of

Zhang to have included receiving said generator output, a term to be specified in said time axis, said interruption term of power supply, said term of output restriction as disclosed by Iino for the advantage of providing a system and method that will increase the efficiency of electric power production so as to contribute to the protection of the environment (Iino: col. 1, lines 40-42).

49. Takriti '402 in view of Iino and further in view of Zhang does not disclose the interruption term of power supply regarding maintenance inspection.

50. Takriti '403 discloses the interruption term of power supply regarding maintenance inspection (Takriti '403: col. 5, lines 15-21).

51. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 in view of Iino and further in view of Zhang to have included the interruption term of power supply regarding maintenance inspection as disclosed by Takriti '403 for the advantage of providing a tool for forecasting the spot price of electric power and the amount of power that may be traded in a market (Takriti '403: column 3, lines 25-28).

### *Conclusion*

52. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Ibrahim, U.S. Publication No. 2004/0102937, drawn to energy forecasting using autoregressive moving average models.

- b. Fan et al., "A Real-Time Implementation of Short-Term Load Forecasting For Distribution Power Systems", IEEE Transactions on Power Systems, Vol. 9, No. 2, May 1994, pgs. 988-994.
- c. Papalexopoulos et al., "A Regression-Based Approach to Short-Term System Load Forecasting", IEEE Transactions on Power Systems, Vol. 5, No. 4, November 1990, pgs. 1535-1550.

The Examiner has cited particular portions of the references as applied to the claims above for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that the Applicant, in preparing the responses, fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Liou whose telephone number is (571)270-1359. The examiner can normally be reached on Monday - Friday, 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on 571-272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric Liou/  
Examiner, Art Unit 3628

/JOHN W HAYES/

Supervisory Patent Examiner, Art Unit 3628